Utah State Hospital Policies and Procedures
Radiology

Utah State Hospital Radiology Department serves Utah State Hospital patients exclusively: patients who are generally acute and chronic psychiatric patients. Radiology services for Utah State Hospital employees are limited to Chest X-rays for follow-up on positive PPD testing, according to Utah Department of Public Health Regulations. Radiology services are performed when ordered by Utah State Hospital authorized prescibers including psychiatrists, medical physicians, and nurse practitioners.

Radiology services does not provide for exams using contrast media or invasive techniques. General radiography exams such as skull, extremity, spine, chest, abdomen, facial bones, and ribs are provided. Procedures requiring contrast media, invasive or special procedures such as CT scans, MRI,s and other such procedures are referred to contracted radiology services by outside providers.

Emergency exams can be performed by Utah State Hospital Radiology during regular office hours (0830-1230) Monday through Friday only (excluding holidays). All other emergency and weekend or holiday exams are referred to the contracted outside provider.

Radiology exams are performed by a Registered Radiologic Technologist. Films are interpreted by a board certified Radiologist who has clinical privileges at a JCAHO accredited medical hospital in the area.

Diagnostic radiology services are regularly and conveniently available to meet the needs of patients as determined by the integrated medical staff.

1. The Director of Radiology Services is a licensed radiologist who is a member of the integrated medical staff and has appropriate hospital-specific clinical privileges granted by the governing body.
2. A qualified registered radiology technologist is employed on a full-time basis.
3. The hospital radiology technologist provides only general diagnostic x-rays.
4. Fluoroscopic and invasive procedures are done through a contract service provider.
5. The Director of Radiology and the Medical Services Administrator, with input from the radiology technologist, advise hospital administration as to space and equipment needs.
6. The Director of Radiology provides consultation to medical or clinical staff as requested.
7. The Radiology Department follows a comprehensive quality control program through the Utah State Department of Health, Bureau of Radiation Control.
8. On recommendation from the Radiology Department, a contract has been negotiated with a service provider to provide radiology services not provided by Utah State Hospital.
    - 8.1 A copy of the contract is in the business office.
    - 8.2 The contract service provider is an accredited hospital which meets the same standards required of Utah State Hospital.
9. The Radiology Department has a comprehensive quality improvement program to assure quality care.The contract service provider backup radiology service has a comprehensive quality improvement program.

Policies and procedures have been developed which ensure effective management, safety, proper performance of equipment, effective communication, and quality control in the Diagnostic Radiology Services/Department.

1. Policies and procedures are developed with the cooperation of Nursing Services, medical staff, hospital administration, and other clinical services as required.

    1.1 The Utah Valley Regional Medical Center (UVRMC) Radiology Department, which provides radiology services to Utah State Hospital patients when these services are not available at Utah State Hospital, has a medical radiation physicist who can provide consultation and/or review policies and procedures.

    1.2 Policies and procedures are reviewed at least annually and more frequently as needed. Each revision and/or review is documented.

2. Written policies and procedures include, but are not limited to, the following:

    2.1 All requests for radiological services are written by qualified individuals licensed to practice independently and authorized by Utah State Hospital clinical privileges to make such requests.

    2.2 Diagnostic radiology services may be provided at UVRMC through the current medical services contract.

    2.3 Repairs and upkeep are contracted through an appropriate agency. Checks are performed at least annually and at the request of the radiology technologist, the Director of Radiology, and the Director of Medical Services.

    2.4 Monitor badges are sent quarterly to a health physics service for monitoring radiation levels of exposure on the radiology technologist.

Consultation reports of diagnostic radiological studies are included in the patient's medical record.

1. The requisition for diagnostic x-rays includes adequate information to aid in the performance of the procedure requested.
2. Interpretation of diagnostic studies is done by a radiologist with current clinical privileges at Utah State Hospital.
3. Authenticated reports are placed in the patient's medical record. A copy is retained in the Radiology Department.

Policy
A radiation survey of all radiographic equipment is performed at least every 2 years by a Radiation Health Physicist.

Procedure

1. The radiation survey includes at least the following areas:
    - 1.1 Machine radiation output.
    - 1.2 Leakage radiation and scatter radiation.
    - 1.3 Focal spot size.
    - 1.4 Collimation and beam alignment.
    - 1.5 KV, timer, MAS linearity, and half-value layer.
2. Any deviations in any of the above areas are corrected by the proper services.
3. A copy of the survey results is maintained in the radiology department as well as in the bureau of Radiation Control files.
4. Aprons, gloves and shields are checked annually for defects and replaced when necessary.
5. An analysis is done on a continuing basis and summarized monthly to keep track of the repeat film ratio.
6. The automatic processor is cleaned and checked every 3 to 4 weeks with replenishing solutions added as needed.

Policy
The radiology department adheres to safety precautions for equipment and personnel.

Procedure

1. The Radiology department adheres to safety precautions in four major areas:

    1.1 Electrical

    1.2 Mechanical

    1.3 Fire

    1.4 Radiation Safety

2. Electrical: High voltages are inherent with radiographic equipment, but due to shockproofing the hazard present is small as long as the unit remains well grounded. The equipment is inspected at least weekly for bent, twisted, or frayed cables, loose electrical connectors or wires, broken receptacles, etc.

    2.1 When any damage is noted in the electrical system, the system is shut down until repairs are completed.

3. Mechanical: Because of the variety of mechanical functions of the radiography equipment, care is given to gear systems into which clothing, gowns, sheets could be trapped in the floating top unit. The elevating and lowering chest and Bucky stand is counterbalanced to prevent dropping.

    3.1 The radiologic technologist is constantly alert for possible counterbalance failure.

    3.2 The radiologic technologist is constantly alert for possible mechanical equipment malfunction or damage.

    3.3 Any malfunctions in equipment are repaired as soon as possible.

4. Fire: If a fire occurs in the radiology department all occupants are removed from the area, the fire station is pulled, all windows and doors are closed. All machinery and power switches are turned off if possible (dependent upon the location of the fire). All equipment is covered to protect from water damage if feasible.

    4.1 Only CO2 extinguishers are used around the electrical equipment.

5. Radiation Safety precautions:

    5.1 Radiology Department Personnel: the maximum permissible occupational dose to whole body radiation is 5 Rems per year. The individual dose in the department is expected to be well below this limitation.

5.1.1 Film badges are worn at all times while in the department.
5.1.2 Loss of a badge is reported immediately.
5.1.3 When a protective apron is worn, the badge is worn outside the apron at the collar level.
5.1.4 Personnel are not to intercept the direct beam at any time whether wearing an apron or not. Aprons are intended as protection from the direct beam.
5.1.5 If the radiology technologist receives in excess of 40 mRem in a month, the cause for exposure is investigated and corrected.
5.1.6 The holding of patients is discouraged and is avoided if at all possible. In the event a patient must be held a protective apron and gloves are worn and the patient is held in such a manner as to assure that the holder does not intercept the direct beam and is exposed to scatter only.
5.1.7 The radiation technologist remains behind the control booth barrier when making exposures.

5.2 Patients: every precaution is taken to avoid any unnecessary radiation exposure.

5.2.1 Childbearing Age: all women in the childbearing age group, up to age 45, who are having abdomen, pelvis, hips, and/or lumbar spine films must have a urine pregnancy test performed unless a definite form of birth control is being practiced (i.e. birth control pills, tubal ligation or hysterectomy). Urine pregnancy test results or form of birth control must be noted on the requisition in the space provided. If the pregnancy test result is negative or if a definite form of birth control is practiced the exam will be performed, otherwise, the exam will be rescheduled when it is safe and appropriate.
5.2.2 Collimation: The primary beam is collimated to the minimum field necessary for the study being performed. Under No circumstances does the beam exceed the dimensions of the field.
5.2.3 Gonadal shielding is used on all patients, whenever possible, through the childbearing years. Shields are placed so as not to interfere with the examination being done and yet protect the patient.

There is a quality improvement program in place to monitor, evaluate, and identify problems, with resolution as the expected outcome.

1. The diagnostic radiology department has a planned systematic process for monitoring and evaluating the quality and appropriateness of patient care and to resolve problems identified.

2. The Radiology Technician is responsible for implementation of a quality improvement program for the department.

3. Monitoring and evaluation of the quality and appropriateness of the patient-care process is accomplished through the following:

    3.1 Routine collection of information about important aspects of diagnostic radiology services; and

    3.2 Assessment of the collected data from diagnostic department and by the quality improvement department to monitor and evaluate patient care services reflects current knowledge and clinical experience.

4. Findings and conclusions of the monitoring process, actions taken to resolve problems and improve patient care, and the results of these actions are reported to the Director of Quality Improvement and the Medical Executive Committee, a subcommittee of the medical staff, *via* the Director of Medical Services.

5. An annual report of the diagnostic radiology department's activities is part of the annual re-appraisal of the hospital quality improvement program and includes the effectiveness of the monitoring, evaluation, and problem-solving activities of the department.

Policy

The radiologic technologist completes at least 24 hours of continuing education every two years in compliance with state and national requirements.

Procedure

1. Utah State Hospital, Utah Society of Radiologic Technologists, and UVRMC provide regular inservice meetings and workshops.

    1.1 USH provides training in fire and life safety, disaster protocols, CPR, infection control, confidentiality and patient rights, and violence control.

    1.2 URVRMC provides training in positioning, techniqures, educational workshops, updates in related fields, and Utah State Radiology Association educational meetings.

2. Utah Society of Radiologic Technologists provide seminars, conferences and monthly educational meetings.

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